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09/189,793	11/12/1998	BYUNG KEUN LIM	K-039	5887

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EXAMINER

ELALLAM, AHMED

ART UNIT PAPER NUMBER

2662

DATE MAILED: 03/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/189,793

Applicant(s)

LIM, BYUNG KEUN

Examiner

AHMED ELALLAM

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 15-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15 the phrase "transmitting, from each of the plurality of mobile stations to the base station, first information and an identifier of the allocated code for the corresponding uplink" is confusing, because the meaning of "first information" is vague. Similarly, the same remark applies to the phrase "second information".

In claim 16, the meaning of the phrases "first information" and "second information" are vague.

In claims 19-22, the phrase "determining the respective content of the received information, for each of the plurality of first devices, by multiplying the received information with the particular unique code indicated by the identifier combined with the corresponding information" is confusing, because it is previously stated that a unique code is designated to indicate a reverse communication, the unique code identifier is combined with the information and the information when received is multiplied by the code indicated by the identifier, given the above statement, it is not clear if the information is spread by the same unique code before the transmission, and if it is

spread by the same code, why such indication of the used code is needed while it is already used for spreading (as recited in claim 20).

Also, in claims 19-22, the phrase "designating N unique codes to indicate either a forward direction communication or reverse direction communication" is confusing, because, it is not clear where the designation takes place and to which entity the indication refers. In addition, the code is used for spreading/dispersing (as disclosed in the specification and recited in claim 20), therefore, using the code to indicate forward or reverse direction is irrelevant. More clearly, if the code is used for spreading, it means that the channel is a forward channel and vice versa.

In claim 20, the phrase "the information is transmitted by spreading and received by dispersing" is confusing, because it is not clear if the information is spread by the same unique code including the identifier of the unique code or else.

In claims 23-28, it is not clear what is meant by "forward information" and "reverse information" more specifically, it is not clear what the information consists of, is it data information, voice information, signaling information? In addition the phrase "each of the identifiers indicates to the base station whether the associated data stream is a forward data stream or reverse data stream" is confusing, because it is previously stated that the base station has a forward data stream and a reverse data stream, it follows that by receiving a data stream it is implied that the base station knows that such data stream is a reverse data stream, and therefore there is no need to indicate data streams as such.

Similar remarks apply the same feature with regard to the mobile station.

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In addition, the phrase "the base station determines the content of the reverse information, communicated within each reverse data stream, by multiplying the respective reverse information with the unique code indicated by the corresponding identifier within the reverse data stream" is confusing, because the reverse information can not be transmitted without using the unique code (spreading), and it is not clear if the unique code is used for both the information and the identifier for spreading. Also, for the base station to identify the unique code needed for multiplying the received information, first it needs to know the code corresponding to the identifier so it can use it, it follows that another code is needed for multiplying the identifier so the code to be used can be defined. In short, it is not clear how the information is transmitted or received while involving an identifier. It is not clear if the identifier of the code used (for spreading/ despreading) is part of the data transmitted/received or not?

In claim 29, the phrases "first information" and "second information" are vague.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 15-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 15-18, the specification does not adequately describe the feature of "transmitting from each of the plurality of mobile stations to the base station, first information and an identifier of the allocated code for the corresponding uplink". More specifically, the specification does not describe the transmission of the identifier of the allocated code.

Regarding claims 19-29, similar remarks as indicated above apply to the term "identifier".

Regarding claims 19-22, in addition to the remark above, the specification does not adequately describe the phrase "combining, for each of a plurality of first devices, an identifier of a particular designated unique code with information to be communicated between the first device and a second device". More specifically, the specification does not describe the nature of combining. Applicant is referred to the Response to Argument for more clarification.

Regarding claims 24-28, the specification does not adequately describe the followings entities: a first recoverer, a first circulator, second recoverer, second circulator. More specifically the specification does not describe the elements of the above entities and how these elements are connected and how they are implemented to perform the functions associated with.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-18, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Omura, US (5,235,615).

Regarding claims 15 and 16, with reference to figure 1, Omura discloses a mobile communication method between a remote unit (mobile station) and a base station comprising the steps of:

Having each chip codeword of each remote-communications signal to be orthogonal to chip codewords of a plurality of remote communication signals which are modulated with a spread-spectrum and that for a particular two-way communications channel between a particular remote unit and the base station, the unique chip codeword used for the base-communications signal and the remote communications signal may be identical, See column 6, lines 28-51.

Having a plurality of remote-communications signals, which are modulated with spread-spectrum, the remote communication-signal communicates information from each remote unit (mobile station), see column 5, lines 4-18. In addition, Omura discloses that the base station 110 communicates to the plurality of remote units with a plurality of base-communication signals, and that the plurality of remote units communicate to the base station 110, see column 6, lines 16-42. (Corresponding to the limitations of claims 15 and 16).

Note: the feature of unique codes indicating a communication from base station to mobile station or from mobile station to base station is inherent to Omura's communication system. (see response to argument).

Regarding claim 17, Omura discloses that for a particular two-way communication channel between a particular remote unit and the base station, the unique chip codeword for the base communications signal and the remote-communication signal may be identical, see column 6, lines 47-51. (Corresponding to the plurality of uplinks and the plurality of downlinks share a common channel).

Regarding claim 18, Omura discloses that Having a plurality of remote-communications signals which are modulated with spread-spectrum, the remote communication-signal communicates information from each remote unit (mobile station), see column 5, lines 4-18. In addition, Omura discloses that the base station 110 communicates to the plurality of remote units with a plurality of base-communication signals, and that the plurality of remote units communicate to the base station 110, see column 6, lines 16-42. Omura also disclose that for a particular two-way communication channel between a particular remote unit and the base station, the unique chip codeword for the base communications signal and the remote-communication signal may be identical, see column 6, lines 47-51. (Corresponding to the number of uplinks is equal to the number downlinks).

Regarding claims 19-29, claims 19-29 have the same scope of claims 15-18 and their combination, thus they are subject to the same rejection.



Note: The claims as amended (15-29) have the same scope of the previous claims (1-14) that are now cancelled. Therefore, Examiner believes that the prima facie case established in the previous office action is still valid.

***Response to Arguments***

6. Applicant's arguments filed January 31, 2002 have been fully considered but they are not persuasive.

112 1<sup>st</sup> Paragraph:

Examiner traverses Applicant argument with respect to 112 1<sup>st</sup> rejection,

Applicant argues that Figure 3 illustrates the inter-connectivity of the elements involved for performing the functions claimed and there associated hardware. Examiner notes that such "inter-connectivity" and the corresponding elements are not described in such full, clear and concise terms, because as Figure 3 illustrates only boxes with respect to the first and second converters, first and second recoverers, first and second circulators and "lines" making the inter-connectivity.

In addition, Applicant referred to the following statement "The first and second recoverers 112, 114 extract the incorporated code to recover the original data (page 6, lines 2-3)" and Applicant further states that such statement together with Figure 3 are adequately enabling to a person of ordinary skill in the art. Examiner disagrees, because it is not adequately described how the incorporated code extracted to recover the original data. More specifically, the specification discloses the use of multiplying the unique code to recover data (dispreading). Examiner notes that such code is needed for

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the extraction of data (dispredding) while the code in question is still incorporated, not mentioning that the code itself is used for spreading. It follows that the data to be recovered is spread by a "unique code" and that the same code is incorporated with the data to be recovered. However, according to CDMA (Code Division Multiple Access) teachings, a receiving device (mobile unit) is assigned an orthogonal code that is used for spreading and dispredding to recover the received or transmitted data without the use of "incorporated code". Finally, Examiner notes that the specification does not describe how the code is incorporated with the data to be recovered; because for the purpose of spreading and dispredding (as known in the art), a longer code must be used due to the extra bits added by the incorporated code, it follows that the specification is not enabling to an ordinary person of skill in the art, if the meaning of "incorporated code" is as such. In conclusion, such lack of description in combination with the lack of the description of the structural elements, Examiner believes that the 112<sup>1st</sup> rejection is proper.

Art rejection:

With reference to inherency, Examiner traverses Applicant argument. The inherency indicated by the Examiner with reference to Omura was indicated based on the fact that once a short code is used there is no need that such code should indicate if it is an upward or downward communication channel, because the short code is used for the purpose to transmit or receive information. As stated above, Examiner believes that such limitation is redundant in Applicant's claims and does not further limit the scope of the claim. If Applicant thinks that such limitation is essential, then Examiner

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may raise several question i.e.: how the codes are assigned, how they indicates forward and reverse communications, etc...? Examiner is confused why such indication is needed if the base station can receive information and in the same time an indication is also needed to indicate to the base station that is receiving information and vise versa.

With reference to the argument that Omura does not anticipate the use of N codes in which N/2 are used to indicate a forward direction and N/2 to indicate a reverse communication channel. Examiner traverses Applicant argument, because, given the feature of Omura's duplexing in combination of Omura's statement that for a particular two-way communication channel between a particular remote unit and the base station, the unique chip codeword for the base communications signal and the remote-communication signal may be identical, see column 6, lines 47-51. Examiner likes to indicate that use of Omura of the phrase "may be identical" is not limiting and it implies that the unique chip codes "may not be identical". More clearly, Omura assumingly used the feature of "may be identical" so that more codes can be used to increase the throughput of the system while keeping short codes shorts for fast processing.

Finally, Examiner believes, given the new subject matter indicated above with reference to "identifier" and "combining step" as well as the indefinite claim limitations, that the argument to the claims as amended do not overcome Omura, and that the use of Omura's reference is proper.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **AHMED ELALLAM** whose telephone number is (703) 308-6069. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

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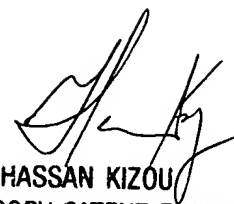
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AHMED ELALLAM

Examiner

Art Unit 2662

March 11, 2002



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